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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/858,252	05/15/2001	Stepan Sokolov	SUN1P829	1717

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EXAMINER

HO, THE T

ART UNIT	PAPER NUMBER
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2126

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/858,252

Applicant(s)

SOKOLOV ET AL.

Examiner

The Thanh Ho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 21-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 21-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10/25/04
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. This action is in response to the amendment filed 7/22/2004.
2. Claims 1-14 and 21-30 have been examined and are pending in the application.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 27-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The following terms lack antecedent basis:

- (i) said platform independent programming language - (lines 3-4 claim 27; lines 3-4 claim 29). Corrections are required.
- (ii) said native programming language - (line 7 claim 27; line 7 claim 29). Corrections are required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 27 and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Poole U.S Patent No. 6,314,445.

As to claim 27, Poole teaches a virtual machine (JVM 10B, Fig. 4) for invoking a native method (native function call instruction with a dynamic parameter set, lines 1-2 column 3) from a platform-independent program (java application 16B, JVM 10B, Java stack 19B, mirror stack 40, Fig. 4), wherein said virtual machine is capable of operating to:

provide a direct reference (an executable reference to the procedure to be called--the procedure--pointer, lines 41-43 column 6; loads the parameters of the call into mirror stack to form an array pointed at by an array pointer, lines 34-37 column 7) to one or more parameters associated with said platform-independent programming language (...acquires the parameters from the Java stack and stores them in memory as an array according to the format defined by the signature, the memory forms a mirror stack..., lines 18-21 column 6), wherein said one or more parameters are stored on a first execution stack (the parameters are placed in a mirror stack in the format expected by the selected function and as indicated by the signature, lines 5-7 column 6),

generate, based on said direct reference, one or more native parameters associated with said native programming language (transfer the array of parameters or mirror stack to the machine stack, lines 29-30 column 6);

invoke said native method with said one or more native parameters (...the native function address is jumped to with the machine stack pointer pointing to the parameters in the machine stack. The native function may then be processed with its parameters fixed and stored in a known location and in the format it expects..., lines 30-34 column 6).

As to claim 29, it is a method claim of claim 27. Therefore, it is rejected for the same reasons as claim 27 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-14 and 21-26, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poole.

As to claim 1, Poole teaches a Java computing environment (Fig. 4), a method of invoking a native method written in a native programming language (native function

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call instruction with a dynamic parameter set, lines 1-2 column 3), said method comprising:

providing a reference (an executable reference to the procedure to be called--the procedure--pointer, lines 41-43 column 6; loads the parameters of the call into mirror stack to form an array pointed at by an array pointer, lines 34-37 column 7) to parameters on a execution stack (...acquires the parameters from the Java stack and stores them in memory as an array according to the format defined by the signature, the memory forms a mirror stack..., lines 18-21 column 6), wherein said parameters are associated with said native method (the parameters are placed in a mirror stack in the format expected by the selected function and as indicated by the signature, lines 5-7 column 6; the native function may then be processed with its parameters fixed and stored in a known location and in the format it expects, lines 32-34 column 6);

generating one or more native parameters based on said reference (transfer the array of parameters or mirror stack to the machine stack, lines 29-30 column 6);

invoking said native method with said one or more native parameters (...the native function address is jumped to with the machine stack pointer pointing to the parameters in the machine stack. The native function may then be processed with its parameters fixed and stored in a known location and in the format it expects..., lines 30-34 column 6).

Poole does not explicitly teach Java parameters on a Java execution stack. However, as discussed above, the mirror stack is created by acquiring the parameters from a Java stack and stores them in memory as an array to form the mirror stack (lines

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18-21 column 6). Therefore one of ordinary skill in the art would conclude the mirror stack is in fact a Java stack as it contains Java parameters acquiring from the first Java stack.

As to claim 2, Poole as modified further teaches wherein said reference is provided to a set of macro instructions (the call native functionality in the AS/400 virtual machine interprets the parameters as fixed in the array and uses stack manipulation functionality in the AS/400 machine to transfer the array or mirror stack to the machine stack, lines 26-30 column 6; parameters are placed on the stack by accessing stack manipulation functionality in the machine using stack manipulation instructions, lines 18-20 column 5).

As to claim 3, Poole as modified further teaches set of macro instructions and said native method are written in the same programming language (C language function call instruction, line 37 column 2).

As to claim 4, Poole as modified further teaches set of macro instructions and said native method are written in C programming language (C language function call instruction, line 37 column 2).

As to claim 5, Poole as modified further teaches converting said Java parameter to native parameter suitable for use by said native method (...transfer the array of parameters or mirror stack to the machine stack, the native function address is jumped to with the machine stack pointer pointing to the parameters in the machine stack. The native function may then be processed with its parameters fixed and stored in a known location and in the format it expects..., lines 29-34 column 6).

As to claim 6, Poole as modified further teaches converting is performed by a set of macro instructions (the call native functionality in the AS/400 virtual machine interprets the parameters as fixed in the array and uses stack manipulation functionality in the AS/400 machine to transfer the array or mirror stack to the machine stack, lines 26-30 column 6; parameters are placed on the stack by accessing stack manipulation functionality in the machine using stack manipulation instructions, lines 18-20 column 5).

As to claim 7, it is a method claim of claim 4. Therefore, it is rejected for the same reasons as claim 4 above.

As to claim 8, Poole as modified further teaches placing native parameter on a native execution stack (placing parameters on the machine stack, line 32 column 6); executing native method using native parameter (the native function may then be processed with its parameters fixed and stored in a known location and in the format it expects, lines 32-34 column 6).

As to claim 9, Poole as modified further teaches Java parameter is a Java reference object (lines 25-40 column 2; lines 52-65 column 6).

As to claim 10, it is a method claim of claims 1 and 5-7. Therefore, it is rejected for the same reasons as claims 1 and 5-7 above.

As to claim 11, it is a method claim of claim 4. Therefore, it is rejected for the same reasons as claim 4 above.

As to claim 12, it is a method claim of claim 2. Therefore, it is rejected for the same reasons as claim 2 above. Poole as modified further teaches the macros operate

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to insulate the native method from the internals of a virtual machine that is invoking the native method (component 18 separates native function 20B and JVM 10B, Fig. 4; the call native functionality in the AS/400 virtual machine interprets the parameters as fixed in the array and uses stack manipulation functionality in the AS/400 machine to transfer the array or mirror stack to the machine stack, lines 26-30 column 6; parameters are placed on the stack by accessing stack manipulation functionality in the machine using stack manipulation instructions, lines 18-20 column 5).

As to claims 13-14, they are method claims of claims 8-9, respectively.

Therefore, they are rejected for the same reasons as claims 8-9 above.

As to claim 21, it is a computer readable medium claim of claim 1. Therefore, it is rejected for the same reasons as claim 1 above.

As to claim 22, it is a computer readable medium claim of claims 5-6.

Therefore, it is rejected for the same reasons as claims 5-6 above.

As to claim 23, it is a computer readable medium claim of claim 5. Therefore, it is rejected for the same reasons as claim 5 above.

As to claim 24, it is a system claim of claim 1. Therefore, it is rejected for the same reasons as claim 1 above. Poole as modified further teaches a memory (memory 28B, Fig. 4) and a CPU (processor 12A, Fig. 1).

As to claims 25-26, they are system claims of claims 5 and 8, respectively.

Therefore, they are rejected for the same reasons as claims 5 and 8 above.

As to claim 28, it is a system claim of claim 1. Therefore, it is rejected for the same reasons as claim 1 above.

As to claim 30, it is a system claim of claim 1. Therefore, it is rejected for the same reasons as claim 1 above.

Response to Arguments

6. Applicant's arguments filed 7/22/2004 have been fully considered but are moot in view of the new ground(s) rejection.

Applicant's arguments presented issues which required the Examiner to further view the previous rejection. The Examiner conducted a further search regarding the issues mentioned in Applicant's response. Therefore, all arguments regarding the cited references of the previous rejection are moot in view of the new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to The Thanh Ho whose telephone number is (571) 272-3762. A voice mail service is also available for this number. The examiner can normally be reached on Monday – Friday, 8:30 am – 5:00 pm.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Any response to this action should be mailed to:

Commissioner for Patents

P.O Box 1450

Alexandria, VA 22313-1450

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Or fax to:

- AFTER-FINAL faxes must be signed and sent to (703) 872 - 9306.
- OFFICAL faxes must be signed and sent to (703) 872 - 9306.
- NON OFFICAL faxes should not be signed, please send to (571) 273 - 3762

TTH
November 23, 2004


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